METHOD AND APPARATUS FOR COUPLING TO A COMMON LINE IN AN ARRAY

ABSTRACT OF THE DISCLOSURE

A method and apparatus for coupling to a common line in an array. Gate structures of an integrated circuit are formed. Source and drain regions adjacent to the gate structures are implanted. A source contact from a metal Vss line to a source region is formed. Dopants of the source and drain regions diffuse laterally to overlap. The overlapping diffusion regions conduct and couple the drain region to a source region. Beneficially, the drain region is coupled to the metal Vss line. As a beneficial result, source contacts may be formed along a line of drain contacts in associated rows of drain contacts, and coupled to a common source line via the novel overlapping diffusion regions. A plurality of word lines may be formed without any bending in the word lines to accommodate source contacts that are larger than the source line. Numerous deleterious consequences of bent word lines, for example decreased array density and detrimental electrical behavior of memory cells in the vicinity of bent word lines, may beneficially be overcome by embodiments of the present invention.